Contents

Special Issue : Optical Spectroscopy and Molecular Dynamics in Anisotropic Systems – A Collection of Invited Papers in Honour of Professor Paraskeva D. Simova

Preface ix

FT–IR surface electromagnetic waves spectroscopy of Langmuir–Blodgett films on metal surfaces
G.N. Zhizin, A.A. Sigarev and V.A. Yakovlev (Troizk, USSR) 1

Phase transition in a model of interacting dimers
J.G. Brankov,V.B. Velichkov and V.B. Priezzhev (Dubna, USSR) 15

Vibrational spectroscopy of rotational dynamics in aligned fluids (stochastic and inertial regimes)
N. Kirov and I. Dozov (Sofia, Bulgaria) 27

Predicted infrared spectrum of polyethylene
B. Galabov and S. Ilieva (Sofia, Bulgaria) 55

On the influence of isotopic composition on vibrational bandshapes in liquids
R. Szostak and J.P. Hawranek (Wrocław, Poland) 65

On the equilibrium vibrational renewal process: Dynamics of liquid crystal media by spectral profile analysis of probe oscillators
W.G. Rothschild and M. Perrot (Talence, France) 75

Luminescence of complex organic compounds under excitation by fast electrons
N.A. Borisevich (Moscow, USSR),
V.V. Gruzinskii and A.V. Kukhto (Minsk, USSR) 81

Dielectric investigations of the short range order in swallow–tailed liquid crystals
S. Heinemann, H. Kresse (Halle, Germany) and W. Weissflog (Leipzig–Lutzchena, Germany) 93

ENDOR studies on the interaction of methanol with copper(II) dithiophosphate complex
N.D. Yordanov and M. Zdravkova (Sofia, Bulgaria) 103

Contents

Special Issue : Optical Spectroscopy and Molecular Dynamics in Anisotropic Systems – A Collection of Invited Papers in Honour of Professor Paraskeva D. Simova

Preface ix

FT–IR surface electromagnetic waves spectroscopy of Langmuir–Blodgett films on metal surfaces
G.N. Zhizin, A.A. Sigarev and V.A. Yakovlev (Troizk, USSR) 1

Phase transition in a model of interacting dimers
J.G. Brankov,V.B. Velichkov and V.B. Priezzhev (Dubna, USSR) 15

Vibrational spectroscopy of rotational dynamics in aligned fluids (stochastic and inertial regimes)
N. Kirov and I. Dozov (Sofia, Bulgaria) 27

Predicted infrared spectrum of polyethylene
B. Galabov and S. Ilieva (Sofia, Bulgaria) 55

On the influence of isotopic composition on vibrational bandshapes in liquids
R. Szostak and J.P. Hawranek (Wrocław, Poland) 65

On the equilibrium vibrational renewal process: Dynamics of liquid crystal media by spectral profile analysis of probe oscillators
W.G. Rothschild and M. Perrot (Talence, France) 75

Luminescence of complex organic compounds under excitation by fast electrons
N.A. Borisevich (Moscow, USSR),
V.V. Gruzinskii and A.V. Kukhto (Minsk, USSR) 81

Dielectric investigations of the short range order in swallow–tailed liquid crystals
S. Heinemann, H. Kresse (Halle, Germany) and W. Weissflog (Leipzig–Lutzchena, Germany) 93

ENDOR studies on the interaction of methanol with copper(II) dithiophosphate complex
N.D. Yordanov and M. Zdravkova (Sofia, Bulgaria) 103

Polarization sensitive CARS spectroscopy and conformational analysis of organic molecules in liquids
S.A. Akhmanov, A.A. Ivanov, N.I. Koroteev (Moscow, USSR)
S.F. Mirnov and A.I. Fishman (Kazan,USSR) 111

Fermi resonance in CH region in $CdCl_2$-H_2O-CH_3OH saturated solutions
E. Anachkova, M. Stoev and I. Zlateva (Sofia, Bulgaria) 127

Comparison of different coherent Raman techniques
A. Lau,M. Pfeiffer and W. Werncke (Berlin, Germany) 137

Surface enhanced Raman scattering of green and blue lutetium diphtalocyanine
R. Aroca, D. Battisti (Windsor, Canada)
E.A .Lukyanetz and L.G. Tomilova (Moscow, USRR) 147

NMR studies of the molecular mobility and supramolecular organisation of the lyotropic system triton X 114 - water
A. Zheliaskova and A. Derzhanski (Sofia, Bulgaria) 155

Polarized FTIR spectra of 9–fluorenone dissolved and oriented in nematic liquid crystal
M. Belhakem and B. Jordanov (Sofia, Bulgaria) 161